

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

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| CHELMSFORD | |
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PCT

WRITTEN OPINION
(PCT Rule 66)

Date of mailing
(day/month/year)

17.11.2003

Applicant's or agent's file reference
P/63299/U63

REPLY DUE

within 3 month(s)
from the above date of mailing

International application No.
PCT/IB03/00513

International filing date (day/month/year)
23.01.2003

Priority date (day/month/year)
23.01.2002

International Patent Classification (IPC) or both national classification and IPC
H01P3/12

Applicant

MARCONI COMMUNICATIONS GMBH et al.

- This written opinion is the **first** drawn up by this International Preliminary Examining Authority.
- This opinion contains indications relating to the following items:
 - ☒ Basis of the opinion
 - ☐ Priority
 - ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - ☐ Lack of unity of invention
 - ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - ☐ Certain documents cited
 - ☐ Certain defects in the international application
 - ☐ Certain observations on the international application
- The applicant is hereby invited to reply to this opinion.

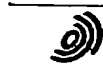
When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also: For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the International preliminary examination report will be established on the basis of this opinion.
- The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 23.05.2004

Name and mailing address of the international preliminary examining authority:



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WRITTEN OPINION

International application No. PCT/B03/00513

I. Basis of the opinion

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed"*):

Description, Pages

1-6 as originally filed

Claims, Numbers

1-8 as originally filed

Drawings, Sheets

1, 2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this opinion.)

6. Additional observations, if necessary:

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V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|--------|-----|
| Novelty (N) | Claims | 1-8 |
| Inventive step (IS) | Claims | |
| Industrial applicability (IA) | Claims | |

2. Citations and explanations

see separate sheet

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International application No. PCT/IB03/00513

Re Item V**Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents:

- D1: GB 628547 A
- D2: GB 826810 A
- D3: US 2975381 A
- D4: US 2558385 A
- D5: PATENT ABSTRACTS OF JAPAN, vol. 016, no. 432 (E-1262) , 09. September 1992 & JP 04 150401 A

The documents D1 - D5 were not cited in the international search report. Copies of the documents are appended hereto.

2. Document D1 discloses a *directional coupler* (D1, page 2, lines 50-67)
- *having two hollow waveguide sections* (D1, page 3, lines 58-67; Fig. 2, features 35, 36)
 - *connected to each other by a plurality of coupling openings* (D1, page 3, lines 58-67; Fig. 2, features 35, 36) *formed in a wall extending between the hollow waveguide sections* (D1, page 3, lines 62-70; Fig. 2, features 31, 32),
 - *two adjacent coupling openings* (D1, Fig. 2, features 31, 32) *having a distance of $(2n+1) \lambda_g/4$ from each other* (D1, page 6; lines 4-22; claim 1), λ_g *being the wavelength of the nominal centre frequency of the operating frequency range of the directional coupler and n being an integer.*

Thus the subject matter of Claim 1 is not novel (Article 33(2) PCT).

- 2.1 Additionally document D1 discloses all additional subject matter of each of Claims 2, 4, 7 and 8.

Claim 2: See D1, claim 1.

Claim 4: See D1, Fig. 1 - 5.

Claim 7: See D1, page 5, lines 70 - 85; Fig. 1, 4, 5.

Claim 8: As soon as the spacing of the openings according to D1, page 6; lines 4-22; claim 1 becomes larger than $\lambda_g/4$, it is apparent from D1, Fig. 1 - 5

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that the wall portions in between the coupling openings become also larger than $\lambda_g/4$.

2.2 In addition it is pointed out that each of documents D2, D3, D4, D5 discloses the subject matter of Claim 1 and of some dependent claims.

2.3 Moreover, document D2 discloses all subject matter of all dependent claims not covered under paragraph 2.1:

Claim 3: See D2, Fig. 1, 2.

Claim 5, 6: Since the slot in document D2 comprises a rod in length direction with a length of $n\lambda/4$ at f_A D2, lines 49 - 52; Fig. 1 the slot has to have at least the same length. In the given example (see D2, page 2, lines 68 - 86; Fig. 4) f_A is about 1.5 times the operation wavelength and therefore the length of the coupling slot is larger than $\lambda_g/8$.

3. It is not at present apparent which part of the application could serve as a basis for a new, allowable claim. Should the applicant nevertheless regard some particular matter as patentable, an independent claim should be filed taking account of Rule 6.3(b) PCT.

The examining procedure would be expedited if the Applicants are able to bring forward in their letter of reply solid arguments demonstrating that their new independent claims are new and inventive with respect to the state of the art.

3.1 To meet the requirements of Rule 6.3(b) PCT, the independent claims should be properly cast in the two part form, with those features which are part of the prior art (see D1) being placed in the preamble (Rule 6.3(b)(i) PCT) and the subject-matter, for which protection is sought, being placed in the characterising portion (Rule 6.3(b)(ii) PCT).

The remaining claims should be adapted to these new claims.

3.2 According to Rule 6.2 (b) PCT technical features mentioned in the claims should be provided with reference signs in parentheses. This applies to both the preamble and the characterising portion.

The application does not meet the requirements of Rule 6.2 (b) PCT, because the technical features mentioned in the claims are not provided with reference signs in parentheses. This applies to both the preamble and the characterising portion.

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- 3.3 In order to indicate more completely the background art useful for understanding the invention, the abovementioned documents D1-D5 should be acknowledged in the description (Rule 5.1(a)(ii) PCT).
- 3.4 In amending the application, the description should be brought into line with the new claims.
- 3.5 As a precaution, care should be taken to avoid giving rise to objection under Articles 34(2)(b) and 41(2) PCT by the inadvertent addition or deletion of subject-matter which extends the content of the application beyond that of the application as filed.
- 3.5 In order to facilitate the examination of the conformity of the amended application with the requirements of Article 34(2)(b) PCT, the Applicants are requested to clearly identify the amendments carried out, and to indicate the passages of the application as filed on which these amendments are based (see also Rule 66.8(a) PCT).